PATENT
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Susan M. Cannon
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Susan M. Cannon
Signature of person mailing correspondence

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Mark C. Fishman et al.	Art Unit:	1634
Serial No.:	09/759,508	Examiner:	Jehanne E. Souaya
Filed:	January 12, 2001	Customer No.:	21559
Title:	Methods for Diagnosing and Treating Heart Disease		

Commissioner for Patents
Washington, D.C. 20231

DECLARATION OF XIAOLEI XU, PH.D., UNDER 37 C.F.R. § 1.131

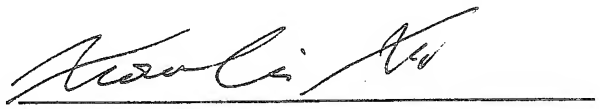
I declare:

1. I am an inventor of the subject matter that is described and claimed in the above-captioned patent application.

2. The enclosed Exhibit is a copy of pages from my laboratory notebook, which show that my co-inventor and I had determined that the pickwick mutation, which is characterized by a weak heartbeat, is in the titin gene. In particular, we found that certain zebrafish sequences that we had identified as being in the pickwick locus were homologous to known titin sequences. These pages are dated prior to the August, 1999 publication date of Satoh et al. (Biochem. Biophys. Res. Com. 262:411-417, 1999).

3. All statements made herein of my own knowledge are true, and all statements made on information and belief are believed to be true, and further, these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment or both under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patents issued thereon.

Date: 11/11/02



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pickwick | positional cloning

4G9 | 100bp marker use 500ng/well.

5cM
10789. (8 Rec/1,000) → 1 YAC
Connexin 500 embryo → 3 YAC. by primers
7cM. from 3'UTR of connexin
as superpool.

[1] were on ~~use~~ use the primer pair to screen the 8 plate pool

Total 24 PCR reaction. 12/8/38 ~~30 × 3~~ 90.

Genomic DNA 1 675 50X. 3 ng/λ use 3λ

order cos → enlable. 35 cycle ×90

25λ.	Template	4λ	(10ng/λ)	26.
	10X A	2.5λ		225
	25mM dNTP	0.1λ.		9
	primer	0.25λ.	20mM.	22.5
	primer	0.25		22.5
	Taq	0.1λ		9
	H₂O H.	17.8λ.		1602
		25λ.		

17.8 × 90 = 1602 → 16.

1. IVF. fish do not ~~gi~~ squeeze out eggs. try next week. select strong fish!
try with my m676 wt fish although AB/TL background. at least. get something.

2.

Titin

pickwick could be titin. zeh1256 show high homologe with titin (connection). which makes sense.

1. Z8363 scan all mutants to identify recombinants.
> 500 embryos. confirm with Z20031 above and ID'd.

2. design primers from af 036148. do ~~[illegible]~~ PCR together with zeh1256 against Y5. Y6. hope to pick up the high side about Y5T3. Y6T3.

3. Compare human/mouse/chick/ titin sequence. design primer pairs against the 27 kb cDNA (conserved region.

① put into RH map. confirm its identity.
② PCR against Y5. Y6.
③ isolate BAC & get the intron. 3'UTR. region and then design primers for SSCP.

~~[illegible]~~

1. Got embryos for m1062H (their parents are here!

m686.9 x TL (two pairs)

m1010H

m521A (# are low)

mP18A (TL allele)

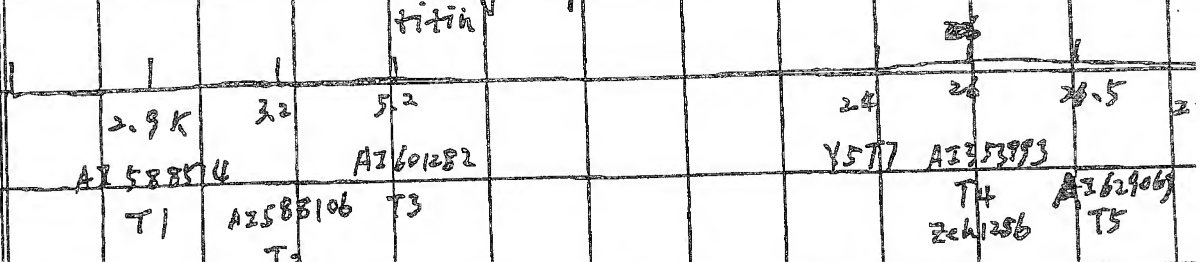
Today bleached five out of 6 except m521A

next Tuesday put them into system.

Tommorrow look at phenotype

More good news!

1. from EST project. 4 were titin zebrafish version!
2. Y5T7 end [illegible] is titin homologue!
3. best of all. they represent different portions of titin



4 according to sequence alignment of Y5T7 the titin gene in chromosome should be.